

REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action dated January 6, 2005, the Examiner rejected claims 1, 2, 5, 7-12, 15, and 17-19, under 35 U.S.C. §102(a), as being allegedly being unpatentable over Kubo '769 (U.S. Patent Pub. No. 2003/0141769); rejected claims 3, 4, 132, and 14, under 35 USC §103(a), as allegedly being unpatentable over Kubo '769 in view of Tamai '170 (U.S. Patent Pub. No. 2004/0032170); and rejected claims 6 and 16, under 35 USC §103(a), as allegedly being unpatentable over Kubo '769 in view of Aoyama '381 (U.S. Patent No. 5,808,381). The Examiner also rejected claims 2-4 and 12-14 as allegedly containing informalities. The Examiner further objected to the drawings, under 37 CFR 1.83(a), as allegedly not depicting a first separation layer being parallel to the coil plane and a second separation layer being perpendicular to the coil plane.

By this Amendment, Applicants have amended independent claims 1, 4, 10, 11, and 14 to provide a clearer presentation of the claimed subject matter. Applicants submit that no new matter has been introduced.

Regarding the objection to the claims, Applicants respectfully point out that the recitations of claims 2-4 and 12-14 are clear on their face. That is, the coil arrangements are circular and FIGs. 3-5 provide a *cross-sectional view* of a vertical plane cut through the diameter of the coil arrangements. (*See, e.g.*, Specification, page 11, par. [0052]). Given this understanding, claims 2 and 12 clearly recite the embodiment of FIG. 3, which depicts a configuration in which the separation layer 6 is horizontally-oriented between the coils 5 (*i.e.*, parallel to the coil plane) and the cooling element 2 is positioned at the outer ends (*i.e.*, radially outward from the coil arrangement). (*See, e.g.*, Specification, page 11, par. [0054]).

Similarly, claims 3 and 13 clearly recite the embodiment of FIG. 4, which depicts a configuration in which the separation layer 6 is vertically-oriented between

the coils 5 (*i.e.*, perpendicular to the coil plane) and the cooling element 2 is positioned above and/or below the coils 5 (*i.e.*, axially above and/or below the coil arrangement). (*See, e.g.*, Specification, page 11, par. [0056]). Along these lines, claims 4 and 14 clearly recite embodiment of FIG. 3, which depicts a configuration in which a first separation layer 6 is horizontally-oriented between the coils 5 (*i.e.*, parallel to the coil plane), a second separation layer 7 is vertically-oriented between the coils 5 (*i.e.*, perpendicular to the coil plane) and the cooling element 2 is positioned above and/or below the coils 5 (*i.e.*, axially above and/or below the coil arrangement). (*See, e.g.*, Specification, page 11, par. [0058]).

With this said, Applicants submit that claims 2-4 and 12-14 are clear on their face and the immediate withdrawal of the objections to these claims is respectfully requested.

Regarding the objections to the drawings, Applicants submit that, for the reasons noted above, the recitation of claims 4 and 14 are clearly depicted and disclosed. (*See, e.g.*, Specification, page 11, par. [0058]; FIG. 5). Applicants respectfully request the immediate withdrawal of the objections to these drawings.

Applicant respectfully traverses the prior art rejections, under 35 U.S.C. §102(a), §103(a), for the following reasons:

I. Prior Art Rejections Under 35 U.S.C. §102(a), §103(a).

As indicated above, amended claim 1 now positively recites that the plurality of coils are separated from each other by one or more separation layers of high thermal conductivity material arranged to be in substantial thermal contact with at least one cooling element that is independent of said one or more separation layers. These features are amply supported by the embodiments described in the Specification. (*See, e.g., Specification, FIGs. 2-5*).

Unlike the present invention, there is nothing in the references of record, including the Kubo '769 reference, that teaches the combination of features recited in

claim 1. In particular, the Kubo '769 reference discloses the use of a coil unit **160** that is divided into the upper partial coil **161** and the lower partial coil **162** and a first cooling pipe (coolant channel) **153** that is interposed between the upper and lower coils **161** and **162**. The material of the first cooling pipe **153** is preferably a high-thermal-conductivity material such as copper or stainless steel in order to increase the heat transfer efficiency from the outside to the inside. A coolant **154** is preferably an inert substance with a large specific heat and low viscosity. (*See, e.g., Kubo '769*: par. [0066]; FIG. 1).

According to the Examiner, Kubo '769 teaches that, in addition to acting as a cooling element, the cooling pipe **153** also acts as a separation layer because the pipe is made from high-thermal conductivity materials and is sandwiched between coils **161** and **162**. Thus, the separation layer and the cooling element are one and the same. This is in direct contrast to claim 1, which explicitly requires that the cooling element is independent of the separation layer.

For at least this reason, Applicants submit that the Kubo '769 reference does not teach each and every element of the claimed combination of elements recited by amended claim 1. Accordingly, the Kubo '769 reference cannot anticipate claim 1 and Applicants respectfully request the withdrawal of the rejection of claim 1, under 35 U.S.C. §102(a). Applicants also request the withdrawal of the §102(a) rejections with respect to claims 2, 5, and 7-11, which depend from claim 1.

Moreover, because independent claims 10 and 11 recite similar features to claim 1 that have already been shown to overcome the §102(a) rejections, Applicants request the withdrawal of these rejections for claims 10 and 11 as well as for claims 12, 15, and 17-19, which depend from claim 11.

Further, as best understood, none of the references of record are capable of curing the deficiencies noted above regarding claim 1. That is, neither Tamai '170 nor Aoyama '381 teach that the plurality of coils are separated from each other by one or more separation layers of high thermal conductivity material arranged to be in

substantial thermal contact with at least one cooling element that is independent of said one or more separation layers, as required by claim 1. Thus, claim 1 is patentable over each of the references of record and claims 2-9 are also patentable by virtue of dependency as well as for their additional recitations. Also, because independent claims 10 and 11 recite similar features to claim 1 that have already been shown to patentable, Applicants submit that claims 10 and 11 are also patentable and that claims 12-19, which depend from claim 11 are also patentable. To this end, Applicants request the immediate withdrawal of the rejections to claims 3, 4, 6, 13, 14, and 16, under 35 U.S.C. §103(a).


II. Conclusion.

All matters having been addressed and in view of the foregoing, Applicants respectfully requests the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicant's Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. Please charge any fees associated with the submission of this paper to Deposit Account Number **033975**; Order No. 081468/0308406. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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